



TSMC-00-268

October 6, 2003

To: Commissioner for Patents  
P.O.Box 1450  
Alexandria, VA 22313-1450

Fr: George O. Saile, Reg. No. 19,572  
28 Davis Avenue  
Poughkeepsie, N.Y. 12603

Subject:

Serial No. 10/615,744 07/09/03

Yi-Lung Cheng et al.

A NOVEL METHOD TO INCREASE FLUORINE  
STABILITY TO IMPROVE GAP FILL ABILITY  
AND REDUCE K VALUE OF FLUORINE  
SILICATE GLASS (FSG) FILM

Grp. Art Unit:

#### INFORMATION DISCLOSURE STATEMENT

Enclosed is Form PTO-1449, Information Disclosure Citation  
In An Application.

The following Patents and/or Publications are submitted to  
comply with the duty of disclosure under CFR 1.97-1.99 and  
37 CFR 1.56. Copies of each document is included herewith.

#### CERTIFICATE OF MAILING

I hereby certify that this correspondence is being  
deposited with the United States Postal Service as first class  
mail in an envelope addressed to: Commissioner for Patents,  
P.O. Box 1450, Alexandria, VA 22313-1450, on October 10, 2003.

Stephen B. Ackerman, Reg.# 37761

Signature/Date

*Stephen B. Ackerman* 10/10/03

U.S. Patent 6,077,764 to Sugiarto et al., "Process for Depositing High Deposition Rate Halogen-Doped Silicon Oxide Layer," describes an FSG deposition process including an N2 flow during deposition.

U.S. Patent 6,221,793 to Ngo et al., "Process for Forming PECVD Undoped Oxide with a Super Low Deposition Rate on a Single State Deposition," describes an oxide deposition process including an N2 flow during deposition.

U.S. Patent 5,827,785 to Bhan et al., "Method for Improving Film Stability of Fluorosilicate Glass Films," describes an FSG process that includes an N-containing gas (NF3).

U.S. Patent 5,429,995 to Nishiyama et al., "Method of Manufacturing Silicon Oxide Film Containing Fluorine," describes a nitrogen and FSG layer.

U.S. Patent 6,242,338 to Liu et al., "Method of Passivating a Metal Line Prior to Deposition of a Fluorinated Silica Glass Layer," describes an N2 plasma treatment of an FSG layer.

TSMC-00-268

U.S. Patent 6,136,680 to Lai et al., "Methods to Improve Copper-Fluorinated Silica Glass Interconnects," describes various treatments of FSG including a nitrogen-treatment.

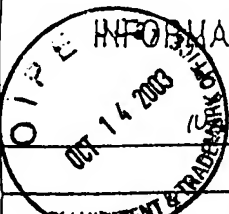
U.S. Patent 6,103,601 to Lee et al., "Method and Apparatus for Improving Film Stability of Halogen-Doped Silicon Oxide Films," describes an FSG process and a post treatment.

Sincerely,

A handwritten signature in black ink, appearing to be 'SBA', written over the printed name.

Stephen B. Ackerman,  
Reg. No. 37761

Form PTO-1449



# INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

Doc No. (Number) (Sequence)

TSMC-00-268

Application Number

10/615,744

Applicant

Yi-Lung Cheng et al.

Filing Date

07/09/03

Oral Examination

## U. S. PATENT DOCUMENTS

EXAMINER'S INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILED DATE IF APPROPRIATE
	6077764	6/20/00	Sugiarto et al.	438	597	4/21/97
	6221793	4/24/01	Ngo et al.	438	788	3/1/00
	5827785	10/27/98	Bhan et al.	438	784	10/24/96
	5429995	7/4/95	Nishigama et al.	437	238	7/16/93
	6242338	6/5/01	Liu et al.	438	622	10/22/99
	6136680	10/24/00	Lai et al.	438	597	1/21/00
	6103601	8/15/00	Lee et al.	438	513	6/10/99

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Portion of Pages, Etc.)


EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.